Er. Henryk M. Usnanski Program Manager U.S.-Italy Cooperative Science Program National Science Foundation Washington, D.C. 20550

Ref.: P4F0007-000

Dear Mr. Uznanski,

I am happy to respond to your telephone conversation of October 25 requesting further documentation of some of the budget items in the reference proposal, concerning the Stanford-Pavia cooperation under the U.S.-Italy Program.

As concerns Dr. Orio Ciferri, he occupies two pertinent roles.

1) He is the Hirector of our counterpart program in the Institute of Genetics at Pavia and would be responsible for coordinating a number of research activities there that mirror our own interests in the field of molecular biology.

2) In previous visits to our laboratory here he has been a creative investigator at the bench in our programs concerning a) the interactions of chlorine and its mode of disinfection by reaction with DMA components, and b) the ensymatic splicing of DNA segments with the aim of gene-insertion from species to another. On every past occasion, his relatively brief visits have been most rewarding in bringing us both up to date with respect to the latest techniques and the latest findings in our respective laboratories. In the bibliography which we submitted earlier you will find his name as coauthor on several publications; his influence indeed goes much further to include most of the papers in molecular biology where we have collaborated with our Italian counterparts. While these brief visits are, of course, not long enough to assure the completion of specific research projects during his actual time here, we have found them to be quite successful in reorienting the directions of our work and facilitating the correspondence that continues while we are in situ at our own institution and exchanging information on our week to week and month to month progress.

Dr. Cavalli-Sforza's trips to Pavia would be justified in essentially reciprocal terms. Here we would have to point out that there are research projects in human population genetics involving mathematical analysis and computer runs which are part of a long ongoing program of cooperation between the two institutions. Dr. Cavalli-Sforza's occasional presence is believed to be necessary to coordinate these activities as between our respective departments. He is, of course, also our principal bridge-head for efficacious

personal communication about the various people at Pavia who might profit themselves, and give us great help, by visits of shorter or greater length to our department here. His knowledge of the language and of course of the local people and institutions and his historical realtionships with that department are, of course, indispensible.

With respect to my own scheduled visit to Pavia, I can only say in all candor that I am already burdened with as much travel and similar obligations as I would care to assume but that I do feel a sense of responsibility to reciprocate with visits to Pavia as partial compensation for their contributions of their own people coming over here. My brief visits there have also been instrumental in furthering purposes similar to those that I mentioned for Dr. Cavalli-Sforza, that is in the realization of plans for research that continue at both institutions. As far as possible, I have made such visits in connection with other necessary business in Europe, but this is not always assured as being manageable at times and places that are convenient for the fulfillment of these responsibilities. My visits to Pavia have been instrumental in bringing my colleagues there up to date with respect to scientific progress over a broad range of fields here at Stanford and among some of my less closely connected colleagues; I know that my feilure to do this would be greatly missed by them. In a certain sense I would be the first to be relieved of there were an exterior compulsion that made it impossible for me to hold to this as my end of the bargain, but this would be an irresponsible approach to a cooperative effort which is of great value to both sides.

Sincerely yours,

Joshua Lederberg Professor of Genetics

JL/rr